

# Apex Labs

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Wednesday, July 22, 2015

Terry Rice  
Columbia West Engineering, Inc.  
11917 NE 95th Street  
Vancouver, WA 98682

RE: Storedahl-Evraz / 1033Q

Enclosed are the results of analyses for work order A5G0531, which was received by the laboratory on 7/20/2015 at 3:15:00PM.

Thank you for using Apex Labs. We appreciate your business and strive to provide the highest quality services to the environmental industry.

If you have any questions concerning this report or the services we offer, please feel free to contact me by email at: [DAuvil@apex-labs.com](mailto:DAuvil@apex-labs.com), or by phone at 503-718-2323.

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DRAFT REPORT

*The results provided in this report are PRELIMINARY and are subject to change based on subsequent analysis, QC validation or final data review. Please use these results with the understanding that they may have not been finalized by the laboratory*

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DRAFT REPORT, DATA SUBJECT TO CHANGE

Columbia West Engineering, Inc.  
11917 NE 95th Street  
Vancouver, WA 98682

Project: **Storedahl-Evraz**  
Project Number: 1033Q  
Project Manager: Terry Rice

**Reported:**  
07/22/15 17:09

## ANALYTICAL REPORT FOR SAMPLES

### SAMPLE INFORMATION

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
LivingstonG-121 ODOT 11/2" E Comp	A5G0531-01	Soil	07/18/15 10:25	07/20/15 15:15
LivingstonG-121 ODOT 11/2" C Comp	A5G0531-02	Soil	07/18/15 10:58	07/20/15 15:15
LivingstonG-121 ODOT 11/2" W Comp	A5G0531-03	Soil	07/18/15 11:40	07/20/15 15:15

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Project Number: 1033Q  
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## ANALYTICAL SAMPLE RESULTS

## Total Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
LivingstonG-121 ODOT 11/2" E Comp (A5G0531-01)			Matrix: Soil					
Batch: 5070514								
Copper	100	---	1.11	mg/kg dry	10	07/22/15 14:53	EPA 6020A	
LivingstonG-121 ODOT 11/2" C Comp (A5G0531-02)			Matrix: Soil					
Batch: 5070514								
Copper	115	---	1.09	mg/kg dry	10	07/22/15 14:56	EPA 6020A	
LivingstonG-121 ODOT 11/2" W Comp (A5G0531-03)			Matrix: Soil					
Batch: 5070514								
Copper	90.4	---	1.10	mg/kg dry	10	07/22/15 14:59	EPA 6020A	

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## ANALYTICAL SAMPLE RESULTS

Percent Dry Weight								
Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
<b>LivingstonG-121 ODOT 11/2" E Comp (A5G0531-01)</b>			<b>Matrix: Soil</b>		<b>Batch: 5070504</b>			
% Solids	97.2	---	1.00	% by Weight	1	07/21/15 09:49	EPA 8000C	Q-38
<b>LivingstonG-121 ODOT 11/2" C Comp (A5G0531-02)</b>			<b>Matrix: Soil</b>		<b>Batch: 5070504</b>			
% Solids	96.8	---	1.00	% by Weight	1	07/21/15 09:49	EPA 8000C	Q-38
<b>LivingstonG-121 ODOT 11/2" W Comp (A5G0531-03)</b>			<b>Matrix: Soil</b>		<b>Batch: 5070504</b>			
% Solids	97.3	---	1.00	% by Weight	1	07/21/15 09:49	EPA 8000C	Q-38

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## QUALITY CONTROL (QC) SAMPLE RESULTS

## DRAFT: Total Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 5070514 - EPA 3051A						Soil						
LCS (5070514-BS1)					Prepared: 07/20/15 15:51		Analyzed: 07/22/15 13:59					
EPA 6020A												
Copper	46.5	---	1.00	mg/kg wet	10	50.0	---	93	80-120%	---	---	
Matrix Spike (5070514-MS2)					Prepared: 07/20/15 15:51		Analyzed: 07/22/15 15:02					
QC Source Sample: LivingstonG-121 ODOT 11/2" W Comp (A5G0531-03)												
EPA 6020A												
Copper	168	---	1.06	mg/kg dry	10	52.8	90.4	147	75-125%	---	---	Q-03

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11917 NE 95th Street	Project Number: 1033Q	Reported:
Vancouver, WA 98682	Project Manager: Terry Rice	07/22/15 17:09

QUALITY CONTROL (QC) SAMPLE RESULTS

DRAFT: Percent Dry Weight
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Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 5070504 - Total Solids (Dry Weight)							Soil					

No Client related Batch QC samples analyzed for this batch. See notes page for more information.

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## SAMPLE PREPARATION INFORMATION

## Total Metals by EPA 6020 (ICPMS)

## Prep: EPA 3051A

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 5070514							
A5G0531-01	Soil	EPA 6020A	07/18/15 10:25	07/20/15 15:51	0.465g/50mL	0.5g/50mL	1.08
A5G0531-02	Soil	EPA 6020A	07/18/15 10:58	07/20/15 15:51	0.475g/50mL	0.5g/50mL	1.05
A5G0531-03	Soil	EPA 6020A	07/18/15 11:40	07/20/15 15:51	0.466g/50mL	0.5g/50mL	1.07

## Percent Dry Weight

## Prep: Total Solids (Dry Weight)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 5070504							
A5G0531-01	Soil	EPA 8000C	07/18/15 10:25	07/20/15 17:04	1N/A/1N/A	1N/A/1N/A	NA
A5G0531-02	Soil	EPA 8000C	07/18/15 10:58	07/20/15 17:04	1N/A/1N/A	1N/A/1N/A	NA
A5G0531-03	Soil	EPA 8000C	07/18/15 11:40	07/20/15 17:04	1N/A/1N/A	1N/A/1N/A	NA

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## Notes and Definitions

### Qualifiers:

- Q-03 Spike recovery and/or RPD is outside control limits due to the high concentration of analyte present in the sample.
- Q-38 Oven outside of control limits during drying step.

### Notes and Conventions:

- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis. Results listed as 'wet' or without 'dry' designation are not dry weight corrected.
- RPD Relative Percent Difference
- MDL If MDL is not listed, data has been evaluated to the Method Reporting Limit only.
- WMSC Water Miscible Solvent Correction has been applied to Results and MRLs for volatiles soil samples per EPA 8000C.
- Batch QC Unless specifically requested, this report contains only results for Batch QC derived from client samples included in this report. All analyses were performed with the appropriate Batch QC (including Sample Duplicates, Matrix Spikes and/or Matrix Spike Duplicates) in order to meet or exceed method and regulatory requirements. Any exceptions to this will be qualified in this report. Complete Batch QC results are available upon request. In cases where there is insufficient sample provided for Sample Duplicates and/or Matrix Spikes, a Lab Control Sample Duplicate (LCS Dup) is analyzed to demonstrate accuracy and precision of the extraction and analysis.
- Blank Policy Apex assesses blank data for potential high bias down to a level equal to 1/2 the method reporting limit (MRL), except for conventional chemistry and HCID analyses which are assessed only to the MRL. Sample results flagged with a B or B-02 qualifier are potentially biased high if they are less than ten times the level found in the blank for inorganic analyses or less than five times the level found in the blank for organic analyses.
- For accurate comparison of volatile results to the level found in the blank; water sample results should be divided by the dilution factor, and soil sample results should be divided by 1/50 of the sample dilution to account for the sample prep factor.
- Results qualified as reported below the MRL may include a potential high bias if associated with a B or B-02 qualified blank. B and B-02 qualifications are not applied to J qualified results reported below the MRL.
- QC results are not applicable. For example, % Recoveries for Blanks and Duplicates, % RPD for Blanks, Blank Spikes and Matrix Spikes, etc.
- \*\*\* Used to indicate a possible discrepancy with the Sample and Sample Duplicate results when the %RPD is not available. In this case, either the Sample or the Sample Duplicate has a reportable result for this analyte, while the other is Non Detect (ND).

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